Health-Related Characteristics of Men Who Have Sex With Men: A Comparison Of Those Living in "Gay Ghettos" With Those Living Elsewhere

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A B S T R A C T

Objectives. This study investigated the limitations of probability samples of men who have sex with men (MSM), limited to single cities and to the areas of highest concentrations of MSM ("gay ghettos").

Methods. A probability sample of 2881 MSM in 4 American cities completed interviews by telephone.

Results. MSM who resided in ghettos differed from other MSM, although in different ways in each city. Non–ghetto-dwelling MSM were less involved in the gay and lesbian community. They were also less likely to have only male sexual partners, to identify as gay, and to have been tested for HIV.

Conclusions. These differences between MSM who live in gay ghettos and those who live elsewhere have clear implications for HIV prevention efforts and health care planning. (*Am J Public Health.* 2001;91:980–983)

Probability samples yield data that are more representative of a particular population than are data from opportunistic samples. In the United States, national probability samples of the general population yield very small samples of men who have sex with men (MSM).[1–3] Previous studies of MSM involving probability samples have been limited to "gay ghettos"[4] in single cities.[5–7] There have been no studies that show ghetto-dwelling MSM in one city to be similar to those who live in other gay ghettos, nor have there been any studies showing ghetto-dwelling MSM to be representative of MSM who live elsewhere.

Thus, there is little available evidence to show how social, behavioral, and demographic health characteristics of MSM might change as residence varies from the gay ghettos to other areas. Without this geographic comparison, interpretation of the existing probability-sampled research on MSM is difficult.

To the extent that geography is correlated with community-based health promotion, AIDS prevention campaigns might not be as effective for those who live outside gay ghettos. If gay-community behavioral norms and media penetration are attenuated outside of gay ghettos, there may be important geographical differences in health behaviors.

The present study compared urban MSM who reside in gay ghettos and MSM who do not with regard to demographic, community, and behavioral health variables. The study was conducted in 4 US cities: San Francisco, New York, Los Angeles, and Chicago.

Methods

Sample Construction

This description of the sampling frame construction is highly abbreviated; a complete description of the sampling frame construction and overall sample demographics has been published elsewhere.[8]

Interviews were performed by telephone from November 15, 1996, through March 1, 1998. Households were selected for screening via random-digit-dialing techniques. MSM prevalence rates by zip code ranged from 1.6% to 33.6%. In total, more than 95 000 households were screened; 3700 households were found to contain at least 1 MSM (3.8% of all households screened), and 2881 (78% of eligible households) interviews were completed. Interviews were conducted in Spanish (n = 17) or English.

Operationalization of the Concept of a Gay Ghetto

In its classic definition, a ghetto requires 4 elements of a geographic area and its defining minority: concentration of minority commercial institutions, minority cultural dominance within an area, minority residence within the area, and minority social isolation from the larger community.[9] An alternative definition includes social cohesion within the minority community instead of the social isolation criterion.[10] The sampling frame we developed included both qualitative and quantitative data related to concentration of MSM commercial institutions and MSM cultural dominance consistent with the definition of a ghetto. Estimation of MSM residential distributions has been described elsewhere[11]; this study evaluated relative social cohesion.

We constructed and compared qualitative maps and quantitative household maps. We defined the center of the gay ghetto as the primarily residential 5-digit zip code in which there was highest concordance. Although zip code is a relatively coarse measure, finer mea-

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sures raise concerns about confidentiality, and the virtually universal knowledge of respondents of their own 5-digit zip code made for ease of confirmation of geographic eligibility.

The perimeters of the gay ghettos were defined by a drop of more than 30% between adjacent zip codes in estimated MSM household concentrations. In all 4 surveyed cities, 2 zip codes met these criteria for definition of a gay ghetto. Although the choice of a more than 30% decrease as the cutoff is essentially arbitrary, it should be noted that in San Francisco, this definition of a gay ghetto differs by only 4 or 5 city blocks from the sampling frames of earlier probability samples of MSM.[5,7] There were no significant differences among the cities and areas of residence in terms of response rates.

Measures

Demographics. We measured the following demographic variables: city of residence, ghetto residence, age, race/ethnicity, individual income, education, self-identified sexual orientation, adjusted HIV status,[12] and current domestic partnership status.

Community. We assessed involvement with the gay community (involvement during the previous year in 7 types of gay community groups, such as professional groups or charitable organizations), involvement with the nongay community (involvement during the previous year in 7 types of community groups), and use of gay media (access to 3 different types of gay media). We also measured community cohesion (mean agreement scores on 7 items; Cronbach $\alpha=0.78$), community alienation (mean agreement scores on 3 items; Cronbach $\alpha=0.58$), and "outness" (the level of expression of a social identity that includes open acknowledgment of gayness, queerness, homosexuality, or bisexality, as measured by the sum of percentages of family members, friends, coworkers, and employers to whom the respondent expresses that identity [Cronbach $\alpha=.85$]). In each case, a higher score denotes more activity related to the specific variable being measured.

Behaviors. The behaviors we assessed consisted of unsafe sex in the previous year (defined as insertive or receptive anal or vaginal intercourse without a condom with a partner of unknown or discordant HIV status; yes vs no), gender of sexual partners in the previous year (any women, only men, or did not have sex), and HIV testing history (ever tested, never tested).

Analysis

We conducted univariate (χ^2) and multivariate (logistic regression) analyses of ghetto–nonghetto differences. For comparative purposes, we aggregated demographic characteristics and behaviors not involving significant interactions between city and area of residence.

We performed, in preference to discriminant analyses, multivariate logistic regression analyses of ghetto vs nonghetto residence for the aggregate 4-city sample.[13] The model included all variables with a bivariate significance level of $P<.1$; city of residence was included as a covariate. We entered the demographic, community, and behavioral variables, respectively, and examined them in steps 2 through 4. Each analysis involved forward and backward entry of all variables.

Results

Our examination of demographic differences between MSM residing in ghettos and MSM residing in other areas showed that education and HIV status differences between ghetto and nonghetto dwellers were dissimilar across cities (Table 1). We found main effect differences between those residing and those not residing in ghettos for age (those not residing in ghettos were more likely to be younger than 30 years or older than 40 years), race/ethnicity (those not residing in ghettos were less likely to be White), individual income (those not residing in ghettos had lower incomes), sexual orientation (those not residing in ghettos were less likely to identify as gay, queer, or homosexual), and domestic partnership status (those not residing in ghettos were less likely to be involved in domestic partner relationships).

Demographic differences were complex. For example, in Los Angeles, the ethnic group exhibiting the largest relative difference between those residing and not residing in ghettos was Hispanic; in Chicago, the group exhibiting the largest relative difference was African American. In San Francisco, the income group exhibiting the largest relative difference between ghetto dwellers and non–ghetto dwellers was the group with incomes above $100 000 per year. In New York, however, the income group exhibiting the largest relative difference was the group with incomes below $20 000 per year.

All community variables were generalizable across the 4 cities (Table 2). MSM residing and not residing in ghettos differed significantly in regard to gay-community involvement (those not residing in ghettos were less involved), nongay-community involvement (those not residing in ghettos were more involved), access to gay media (those not residing in ghettos had less access), community cohesion (those not residing in ghettos were less cohesive), and degree to which family members and others were aware of the person's sexual orientation (those not residing in ghettos had informed fewer people). However, the groups did not differ in level of community alienation.

Table 3 presents data on behavioral differences by city and area of residence. All behavioral variables were generalizable across the 4 cities. MSM not residing in ghettos were more likely to have had sex with a woman in the previous year and less likely to have ever been tested for HIV. There were no differences in rates of unsafe sex between ghetto-dwelling and other MSM.

Multivariate analyses of the aggregate sample yielded 5 significant variables predicted by area of residence: city of residence (as a covariate), income (lower among non–ghetto dwellers), gay-community involvement (lower among non–ghetto dwellers), nongay-community involvement (higher among non–ghetto dwellers), and outness (lower among non–ghetto dwellers).

Discussion

This study revealed important differences between MSM who live in ghettos and those who live elsewhere. MSM in gay ghettos were more likely to be White; to be young; to have higher incomes; to identify as gay, queer, or homosexual; and to be involved in domestic partnerships. MSM who did not live in ghettos were less involved in the gay community but more involved in the nongay community. Also, they were less open about their sexual orientation (less "out") and had less positively embraced the gay community. The 2 groups exhibited similar levels of alienation from the gay community and engaged in safe sex at similar rates. Finally, in comparison with ghetto dwellers, non–ghetto dwellers were more difficult to reach through gay media sources, more likely to be bisexual, and less likely to have been tested for HIV.

These differences are consistent with the social criterion for the operational definition of a gay ghetto. Multivariate analysis showed that MSM with incomes below $20 000 were more than twice as likely to live outside gay ghettos; non–ghetto dwellers were less involved in the gay community and less out, but they were more involved in the nongay community.

It is not unreasonable to generalize these findings to other cities and to other ghetto and nonghetto areas, but caution should be exercised. The 4 cities studied were chosen for the size of their MSM populations, the clustering of their populations into ghettos, and their historic and social importance in the MSM HIV epidemic. The extent to which these factors affect generalizability is unknown. The sample

TABLE 1—Demographic Characteristics of MSM Residing and Not Residing in Ghettos: 4 US Cities, 1996–1998

	San Francisco, %		New York, %		Los Angeles, %		Chicago, %		Overall, %	
	Ghetto n = 367	Nonghetto n = 548	Ghetto n = 209	Nonghetto n = 589	Ghetto n = 270	Nonghetto n = 483	Ghetto n = 253	Nonghetto n = 159	Ghetto n = 977	Nonghetto n = 1879
Age, y[a]										
18–29	16	16	20	18	19*	26*	27	23	20*	20*
30–39	36	39	40	37	47*	36*	44	45	41*	38*
40–49	31	26	24	25	20*	25*	20	19	24*	25*
50–59	11	11	12	10	7*	9*	8	10	10*	10*
≥60	4	8	4	9	7*	4*	1	3	4*	7*
Race/ethnicity										
White	83	78	82	80	82**	70**	82*	79*	82*	77*
African American	2	5	5	4	3**	4**	4*	10*	4*	5*
Hispanic	7	9	8	8	8**	18**	8*	6*	8*	10*
Asian/Pacific Islander	4	5	2	5	3**	4**	4*	3*	3*	5*
Native American	4	3	2	2	4**	4**	<1*	2*	3*	3*
Other	<1	<1	<1	<1	<1**	<1**	2*	<1*	<1*	<1*
Individual income, $[b]										
<20 000	23*	25*	7**	19**	20	26	6	11	14**	22**
20 000–40 000	33*	35*	28**	32**	32	32	46	45	32**	33**
40 001–60 000	16*	20*	22**	22**	26	21	28	19	22**	21**
60 001–80 000	8*	10*	20**	11**	11	10	12	10	13**	11**
80 001–100 000	6*	5*	8**	3**	4	3	3	8	6**	4**
>100 000	14*	6*	16**	12**	9	9	4	6	12**	10**
Education										
Less than high school	2***	3***	<1	2	5***	3***	<1	1	. . .[c]	. . .[c]
High school	25***	38***	18	22	29***	40***	25	26	. . .[c]	. . .[c]
College	45***	40***	54	44	42***	43***	52	51	. . .[c]	. . .[c]
Master's	21***	15***	20	23	15***	11***	17	15	. . .[c]	. . .[c]
Doctorate	7***	4***	8	10	9***	3***	5	8	. . .[c]	. . .[c]
Sexual orientation										
Gay/queer/homosexual	95***	86***	90	85	92*	85*	93	87	92****	86****
Bisexual	4***	10***	8	11	7*	11*	5	11	6****	11****
Straight/heterosexual	1***	4***	3	4	1*	3*	2	2	2****	4****
HIV status, adjusted										
Positive	26***	16***	17	13	18	21	13	14	. . .[c]	. . .[c]
Other	74***	84***	82	87	82	79	87	86	. . .[c]	. . .[c]
Domestic partner status										
Current partner	42**	31**	39	35	36	32	41	32	39**	33**
No current partner	58**	68**	61	65	64	68	59	68	61**	67**

Note. Sums of numbers of ghetto dwellers and non–ghetto dwellers by city do not equal sums for the aggregate sample owing to the weighting scheme. Percentage sums within each area of residence may not equal 100% owing to rounding.
[a]Medians ranged from 35.2 years to 39.2 years.
[b]Medians ranged from $34 200 to $53 800.
[c]Because significant interactions were found between city and area of residence, this variable could not be aggregated across the 4 cities.
*$P < .05$; **$P < .01$; ***$P < .001$; ****$P < .0001$ (for distribution within each city or within the aggregate).

TABLE 2—Community Variables: MSM Residing and Not Residing in Ghettos: 4 US Cities, 1996–1998

	San Francisco		New York		Los Angeles		Chicago		Overall	
	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto
Gay community involvement, mean score (range: 0–7)	1.66†	1.48†	1.90**	1.46**	1.91**	1.45**	1.77†	1.49†	2.63***	2.44***
Nongay-community involvement, mean score (range: 0–7)	0.75	0.84	0.80*	1.02*	0.85†	1.01†	0.85	1.00	0.81***	0.98***
Access to gay media, mean score (range: 0–3)	2.08***	1.88***	2.11**	1.92**	2.09**	1.89**	2.10*	1.90*	2.10***	1.90***
Community cohesion, mean score (range: 1–4)	3.44***	3.30***	3.35†	3.27†	3.30*	3.19*	3.35**	3.16**	3.36****	3.25****
Community alienation, mean score (range: 1–4)	2.53	2.58	2.68*	2.53*	2.78	2.71	2.51	2.41	2.64†	2.58†
Outness, mean score (range: 0–16)	12.5**	11.5**	11.5†	10.8†	11.9***	10.3***	10.9*	9.91*	11.8***	10.8***

†$P < .10$ (for difference in means by area of residence).
*$P < .05$; **$P < .01$; ***$P < .001$; ****$P < .0001$ (for difference in means by area of residence).

TABLE 3—Behavioral Differences Between MSM Residing and Not Residing in Ghettos, by City and Area of Residence: 4 US Cities, 1996–1998

	San Francisco, %		New York, %		Los Angeles, %		Chicago, %		Overall, %	
	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto	Ghetto	Nonghetto
Unsafe sex in past year	8†	12†	11	14	14	13	10	14	11	13
Female sex partner in past year	6	9	5**	12**	6**	11**	4	8	5****	11****
Never tested for HIV	6*	11*	10†	14†	8*	14*	12	10	9***	13***

†$P < .10$ (for difference in means by area of residence).
*$P < .05$; **$P < .01$; ***$P < .001$; ****$P < .0001$ (for difference in means by area of residence)..

frame excluded some MSM who live in urban areas with low concentrations of MSM, as well as those residing in small cities, suburbs, or rural areas. Probability sampling of these areas may be prohibitively expensive, and opportunistic or hybrid sampling strategies (e.g., network sampling[14,15]) may be the methods of choice, albeit with significant limitations, to study such populations.

MSM of color were underrepresented in this study as a result of in-migration,[8] but MSM of color may also be less likely to disclose sexual orientation or to preferentially live in the cities not sampled. The sample excluded a priori adolescent MSM and the 5% of households in the cities that did not have telephones.[16,17] Within budget constraints, convenience sampling may be the only way to reach some subgroups of the very poor, such as those who are homeless; interviewing adolescents requires complicated (and probably biasing) parental consent.

The findings suggest that geographic differences should influence public health prevention efforts with these groups. Gay media–based, community-level interventions cannot be expected to reach non–ghetto dwellers as effectively as they would ghetto dwellers. Increased efforts to raise HIV testing rates may be necessary outside the ghetto. Interventions that reach MSM who also have sex with women, do not identify as gay, or are less open in regard to their sexual identity may be necessary for non–ghetto dwellers. In addition, probability samples of MSM drawn solely from gay ghettos may have limited utility when their results are applied to MSM not residing in ghettos.

Person, place, and time are 3 basic axes along which epidemiology is studied. Place has been given short shrift in research on the health of MSM. Where an individual lives is the result of a complex intersection of economics, ethnicity, family ties, community values, and personal aspirations. In moving beyond gay ghettos, this is the first study of the health of MSM that has rigorously addressed issues of place. As such, it represents an important first step in better addressing the health needs of MSM in the United States. □

Contributors

T.C. Mills, R. Stall, and J.P. Paul planned the study and led the analysis of the data. L. Pollack was the senior statistician and helped design the sampling frame; J. Canchola performed the statistical analyses and helped design the sampling frame. T.C. Mills, R. Stall, J. Paul, D. Binson, and J.A. Catania were instrumental in the sampling and questionnaire design components of the study as well as the study's implementation. All of the authors participated in the analysis of the data and in the writing of the paper. J.A. Catania served as the principal investigator.

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